DigiPoS PowerPoS & Millennium

Users Guide

Socket 370 Series

Manual Version 1.3

October 2002

USER'S NOTICE

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Updates to this manual and additional information may be found on the Internet at
http://www.pc-pos.com/

For any drivers associated with this DigiPoS, please contact your supplier/distributor or you can find the latest versions available for download on the Internet at
http://www.pc-pos.com

FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class A digital device. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at this own expense.

Notice

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

All brand names and registered trademarks mentioned in this manual are the property of their respective owners and their use here is for reference purposes only.

SAFETY INSTRUCTIONS

- Always read the safety instructions carefully.
- Keep this Manual for future reference.
- Keep this equipment away from humidity and dust.
- Lay the equipment on a reliable flat surface before setting it up.
- The openings on the enclosure are for air convection, hence protecting the equipment from overheating. DO NOT COVER THESE OPENINGS. For a more detailed explanation about ventilation requirements, please check the on-line documentation available at:
  http://www.pc-pos.com/
- Make sure the voltage of the power source (mains) conforms within the permitted range before connecting the equipment to the power inlet.
- Place the power cord in such a way that people cannot step on it. Do not place anything over the power cord.
- ALWAYS shut down the operating system and disconnect the unit from any power sources before removing any connections (Keyboard, Mouse, etc..) or opening up the unit to fit additional cards and or devices.
- All cautions and warnings on the equipment should be noted and adhered to.
- Never pour any liquid into the opening that could damage or cause electrical shock.
- If any of the following situations arise, have the equipment checked by qualified service personnel:
  - The power cord or plug is damaged
  - Liquid has penetrated into the DigiPoS
  - The equipment has been exposed to moisture
  - The DigiPoS is not working well or you can not get it to work according to the User's Manual
  - The DigiPoS has been dropped and damaged
  - The DigiPoS has obvious signs of breakage or physical damage
- Do not leave this DigiPoS in a non air-conditioned environment with a storage temperature above 60ºc (140ºf) as it may damage the equipment.
- For reasons of safety, gloves should be worn when assembling the DigiPoS after any work has been carried out.

NOTE
- The technical descriptions and specifications of the Millennium & PowerPoS are subject to change without notice.

ACHTUNG!
- Wir behalten uns Änderungen der technischen Beschreibungen bzw. Spezifikationen vor.

注意事項
- 本說明書所列規格僅供參考, 本公司保留產品修改變更之權利.
- 爲了您的安全, 拆裝PC內部組件時請戴白手套以防割傷.

CAUTION

There is a danger of explosion if the CMOS battery is incorrectly replaced. Replace only with the same or equivalent type of battery. Please Contact you're nearest PC-PoS office for further information and or assistance.

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Introduction

Congratulations on the purchase of your DigiPoS Retail System!
You are now the owner of a state-of-the-art DigiPoS Retail System. The DigiPoS Retail System is a solution that offers enhanced features, speed and performance combined with exceptional reliability. It is also a PC that is unrivalled by other conventional Pentium based PCs within the EPoS industry.

Key Features

Component	Description
CPU	Supports Socket 370 Intel Celeron / PIII/VIA Cyrix C3 CPUs
CPU CLOCK	266 MHz to 1GHz
MAIN MEMORY	Notebook SO-DIMM X 1 up to 512MB (SDRAM or EDO)
BIOS	Enhanced ACPI 1.0 / PnP / APM / DMI / ESCD / PCI bus 2.1 / OnNow / DRAM ECC Quick Boot / HW Monitor (LDCM) / I-O Pre-set IRQ / Spread Spectrum / PC98 compliant
CACHE MEMORY	512KB P.B. SRAM
EXPANSION SLOTS	Riser Card with 3 FREE Slots: 1 x ISA, 2 x PCI and 1 x IDE2 CD-ROM connector
SERIAL PORTS	COM1, COM2, COM3, COM4 (COM3/4 output on riser card). IRQ & I/O address selection by BIOS (Jumper less).
PARALLEL PORT	One LPT port (SPP / EPP / ECP) IRQ and address selectable by BIOS
USB	TWO USB ports supporting Windows 95/98/Me/2000/Xp
FDD	1.44MB / 3.5" FDD x 1
ENHANCED PCI IDE	On board PCI Bus Master IDE1/2 controller with Windows utility. Supports Ultra DMA/66
AGP GRAPHICS ADAPTER	VIA 8604 AGP with shared memory from 2MB up to 32MB. Features include: Support for 4X AGP VGA controller Support for 3D / 2D Graphics Accelerator Support for DVD Video Accelerator Support for VESA DPMS VGA Monitor for Power Management Direct X, VPE, MPEG2 NT4.0 / 5.0, Windows95/98/Me/2000/Xp utility APM / ACPI 1.0 Supports VESA DPMS VGA monitor for power management PC98 compliant CRT and LCD TMDS output (Optional) Supports dual monitor output (optional) under Windows 98/Me/2000/Xp
ONBOARD LAN (10/100Mbs Auto sensing)	ACPI / NT4.0 / 5.0 (NDIS 5) NT 4.0 / Win95/98 utility Remote boot ROM NT4.0/Win95/98 Utility PC98 compliant Enable or disable by BIOS set-up *(Jumper less)*
ONBOARD AUDIO	AC97 CODEC on board
DISK ON CHIP	With DigiPoS EPoS Diagnostics Utility

Component	Description
KEYBOARD PORT	PS/2 type
MOUSE PORT	PS/2 type
FRONT PANEL	Front panel features include: AC power on/off button 3 LED indicators: Power On/Off, HDD state & LAN state 1.44MB FDD Door for FDD and Power switch (with key lock) Slim 24X CD-ROM or CD-R/ CD-RW (optional) drive bay
BACK PANEL	Back panel features include: VGA CRT 15-pin DSUB connector COM1/2/3/4 9-pin DSUB output connectors LPT 25-pin DSUB connector PS/2 Keyboard & Mouse connectors LAN RJ-45 output connector USB1 / USB2 connector Audio line in / line out, microphone-in 2nd CRT and LCD TMDS output (optional) TV S-Video and RCA connector output (optional)
THERMAL SOLUTION	One low-noise 50mm fan for power supply and HDD One low-noise 50mm fan for CPU heat-pipe (water cooling system) and air tunnel
AC POWER SUPPLY	300W External Power Supply (UL, CSA, VDE, EMI meets FCC *B*)
AC POWER SOURCE	AC 90V to 264V, 60Hz / 50Hz
CASE DIMENSIONS	11"(W) x 11" (D) x 3" (H) (280 x 280 x 75mm) (Excluding PSU)
S/W COMPATIBILITY	DOS / OS2 V2.1 / SCO XENIX: V2.3.2 / SCO UNIX V3.2 / NOVELL / WIN 3.1/95/98/Me/NT4.0/2000/Xp
EXPORT PACKAGING	Each pack measures 36 x 36 x 19cm and weighs 5.5kg net 6.5kg gross
TEMPERATURE	Operating: 0ºC to 40ºC (without HDD up to 50ºC) Storage: -25ºC to 70ºC

Options

PCI Cards
Please contact your EPoS distributor or PC-PoS to discuss the wide range of PCI card add-ons that are available to enhance your solution.

Disk On Module Port
Compact Flash card ATA IDE type I PC card socket

Dual VGA out card
2nd CRT VGA, TV and LCD TMDS add-on card
(Please contact PC-PoS for advice on the appropriate selection of this card)

CD-ROM/ CD-R/ CD-RW
Single IDE 2 Socket for 1 x Internal CD ROM

Digital Flat Panel Output (DVI)
Please contact your EPoS distributor or PC-PoS to discuss your requirements.

Important Notes

1   For maximum performance, the cable used for the hard drive is constructed from a special material and due care must be taken when removing or replacing this item, taking note of the route the cable takes from the hard drive to the motherboard connector.
2   As the power supply of this unit is an AT type, it will not support Advanced Power Management (APM) functions. Under Windows 2000, if the APM function is enabled, the system will not shut down correctly.
3   If the hard drive has to be replaced, only fit a hard drive that has a maximum speed of 5400rpm. For the correct type and options available, please contact PC-PoS.
4   The only connectors that can be unplugged while the DigiPoS is powered are the USB connectors. If any other connector is removed or replaced while the power is on, serious damage can occur to the DigiPoS. This is considered to be outside the scope of the warranty and will attract a charge for the repair of any damage caused by this action.
5   The installation of an internal CD-ROM will determine the maximum card length used in the 32-bit PCI SLOTS located in PCI 1/PCI 2 because of the compact nature of the DigiPoS. The length of any PCI add-on card is as follows:
    5.1 **190mm long x 110mm** wide without CD-ROM
    5.2 **140mm long x 110mm** wide with CD ROM
    5.3 The ISA SLOT has a maximum length of any add-on card of **170mm long x 110mm** wide.

The System's Indicators, Buttons and Connectors

The following information will help you to acquaint yourself with the external components of the DigiPoS Retail System.

Front Panel Orientation

(Shown with front panel down)
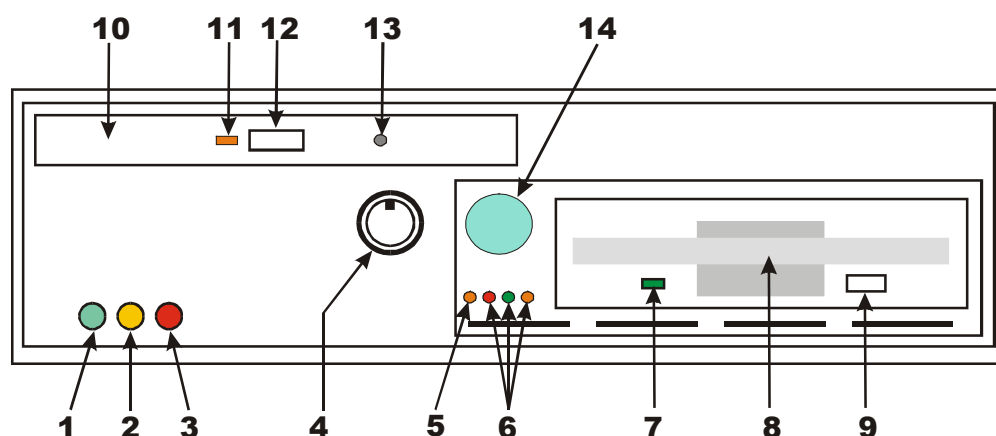
|	
1) LED- Power On Indicator	8) FDD Drawer
2) LED- LAN Status Indicator	9) FDD Release Button
3) LED- HDD Activity Indicator	10) CD ROM (Optional)
4) Front Panel & CD ROM Lock	11) LED- CD ROM Activity Indicator
5) LED- DigiPoS Diagnostics Disk On Chip Active	12) CD ROM Drawer Open Button
6) LED- Power Distribution Board Voltages	13) CD ROM Manual Draw Open Catch
7) LED- FDD Activity Indicator	14) Power On / Off Switch

Rear Panel Orientation
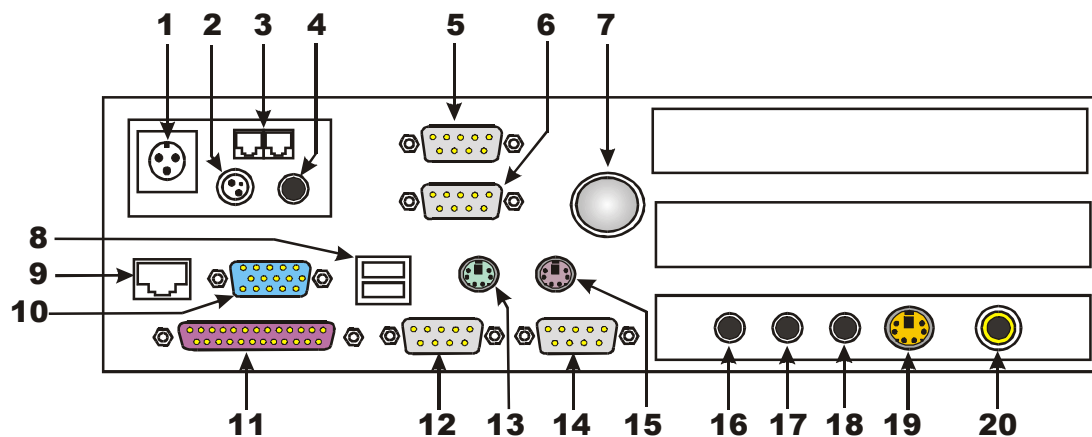
1) DC Power Input From PSU	11) Parallel Port
2) 24V Hosiden Connector	12) COM3 Port
3) Cash Drawer Loop Through Connectors	13) PS/2 Mouse Port
4) 2.5mm Barrel Connector	14) COM4 Port
5) COM1 Port	15) PS/2 Keyboard Port
6) COM2 Port	16) Microphone In Socket
7) Pulling Knob	17) Line In Socket
8) Two USB Ports	18) Line Out Socket
9) LAN Port	19) S-Video Out (Optional)
10) Parallel Port	20) TV Out (Optional)

If PowerPoS or Millennium does not have the TV-OUT Module installed (which is an optional feature), the S-terminal and RCA TV output will not function.

Internal System Orientation

(As above but with additional features marked)
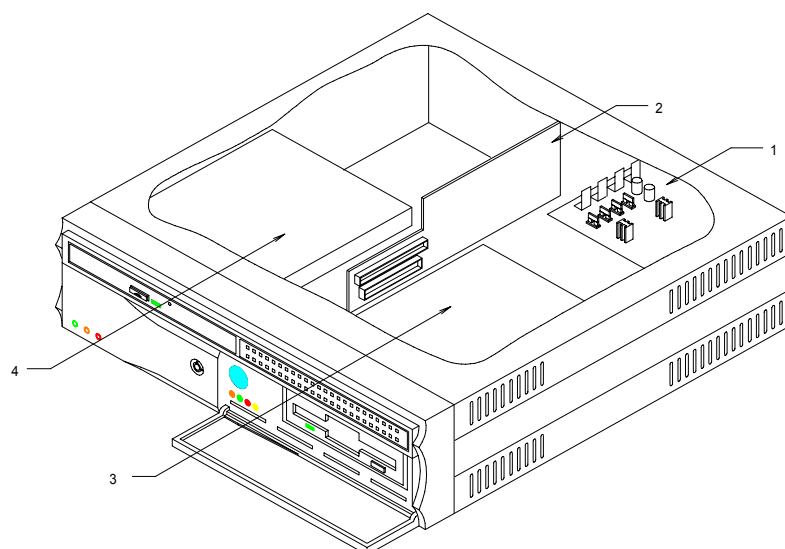
| 1) Power distribution board	3) HDD/FDD sub chassis
2) Riser Card	4) CD-ROM

Power Distribution on the Millennium & Power PoS

WARNING

Any or all of the serial ports may be configured for 5, 9, 12 or 24 volt on pin 9 of their respective D-type connector. This can result in damage to peripheral equipment if the incorrect voltage is selected. For example if a modem is connected to a port configured for 24 volts the modem will almost certainly be destroyed. It is therefore imperative that the voltage selected is suitable for the device attached. It is also important to remember that the industry standard connector for a RS232 serial port is a 9 pin D-type plug, and as pin 9 can be powered it is physically possible to short out pin 9 to either pin 5, 8 or the chassis. This will almost certainly result in serious damage to the motherboard and possibly to the peripheral as well. If either selecting the wrong voltage or removing the connectors while the devices are powered damages ANY peripheral device or the DigiPoS, a charge may be applied by PC-PoS for any repairs necessary.

Configuration

The diagram below shows the power distribution board and the jumper arrangement. The diagram shows an example set-up with the following voltages set: Com1 = 24V, Com2 = 24V, Com3 = 5V, Com4 = Not Set and the 2.5mm Barrel = 12V.
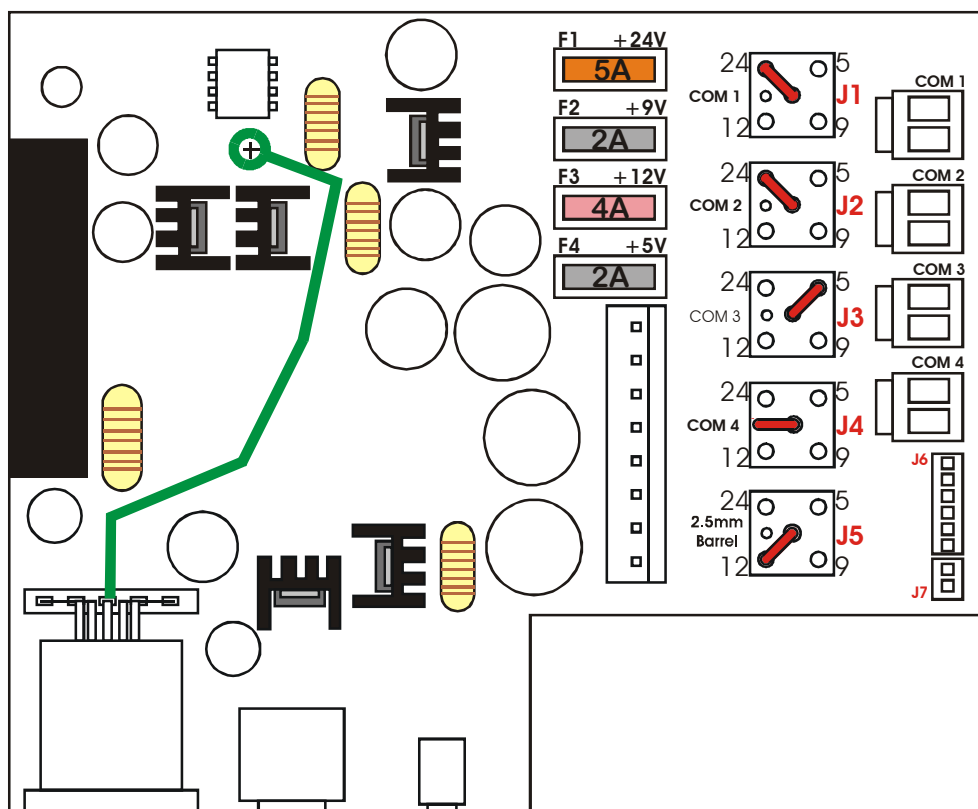
Power Distribution Board Layout

Correct Fuse Ratings

5V	9V	12V	24V
2A	2A	4A	5A

The Fuse ratings must never be exceeded.

If a fuse blows, it is either an indication of a problem with a powered peripheral or that voltage is drawing too much current. If you have to replace the same fuse more than once in any 24-hour period, please contact PC-PoS or your PC-PoS representative.
The fuse type is a mini-blade automotive fuse. Please contact you're nearest PC-PoS office or representative if you require replacements or spares.

Power Board Configuration

Jumper	Port	Setting	Default Setting
J1	COM1	0, 5, 9, 12, 24, Modem	Not set
J2	COM2	0, 5, 9, 12, 24, Modem	Not set
J3	COM3	0, 5, 9, 12, 24, Modem	Not set
J4	COM4	0, 5, 9, 12, 24, Modem	Not set
J5	Barrel	0, 5, 9, 12, 24, Modem	Not set

A typical configuration sticker giving details on what voltage has been set with regard to which port. This sticker can usually be found on the underside of the case towards the rear. Please note the Modem position if required.

Application

Unless specified at time of order, the DigiPoS will be shipped with the default jumper settings of 0 Volts. If you wish to have a particular set-up, including the Modem option, then please contact your PC-PoS representative.

The modem option will permit the connection of an external modem to the DigiPoS and allows the use of the ring indicator (RI) signal. The Ring Indicator is the signal the modem gives to the DigiPoS to tell the software that someone is trying to connect to it. The RI signal is normally found on pin 9 of the d-type connectors and as this is the pin that is used to supply power to the peripherals it is necessary to replace the internal cable connection to the selected port. For example if a modem option is selected for COM port 3, then the powered cable assembly would be removed for COM port 3 and be replaced with a non powered version. This would not affect the other 3 ports, they would remain powered or as per requested configuration.

Typical Voltage Requirements

Device	0	5	9	12	24	Modem
Epson PoS Printer	-	-	-	-	Y	-
Epson PoS Display	-	-	-	-	Y	-
MSR-512 swipe reader	-	Y	-	-	-	-
MS-9540 Voyager	-	Y	-	-	-	-
DigiPoS Customer Display	-	-	-	-	Y	-
LCD Monitor	-	-	-	Y	-	-
External Modem	-	N	N	N	N	Y

Onboard Diagnostics for the Millennium & Power PoS

Diagnostic Overview

The PowerPoS and the Millennium have built onto the motherboard an area of memory specifically for diagnostic purposes. This memory area and the program stored in it have been designed so that system tests can be run without interfering in any way with the operating system or user applications. The diagnostic tests are designed to cope with the majority of configurations. To access the diagnostics utility and run the tests it is necessary to follow the procedure laid out below.

Diagnostic Procedure

1. Close down any applications that are running within your operating system and double click the DigiPoS Diagnostics Icon. The program will shut down software that is running and then re-starts the system automatically.
2. When the DigiPoS restarts, the orange diagnostic LED, the LED at the left hand end of the group of four small LED's below the power switch, should illuminate to indicate that the DigiPoS is in diagnostic mode.
3. After the initial BIOS screens have cleared a splash screen should be displayed, this will clear after a second or two.
4. The main diagnostic screen will now appear and the system will start searching for connected serial devices. When the search has finished a menu will appear below the logo and show the serial devices found, as per the diagram below. Check that the devices found match the devices attached and that the serial parameters match those defined for the peripherals.
5. Exercise each of the test procedures as described in the following sections.
6. After each test has been completed exit the diagnostic program using the appropriate menu selection and the DigiPoS will automatically re-boot back into your operating system.
7. The results of the diagnostic tests can be found in a file called "DIAGRSLT.TXT" stored in a drive called "Diagnostics" which can be accessed by explorer or my computer.

An Example of a Diagnostic Test Screen

Printer Test

Please note that the Printer test will only work with printers that are Epson ESC/PoS compliant. The serial scanning software will not reliably detect printers that are not ESC/PoS compliant and therefore the tests cannot be relied upon.

**An Example of a Printer Test**

Customer Display Test

Please note that the Customer Display test will only work with displays that are Epson ESC/PoS compliant, these include all of the Epson displays and the DigiPoS CD-5220 (when set up for ESC/PoS emulation). Start the test by pressing the numbered key next to the menu entry; this will either be menu item 1 or menu item 2.

An Example of a Customer Display Test

The display should now start to perform a variety of tests culminating with the following picture.
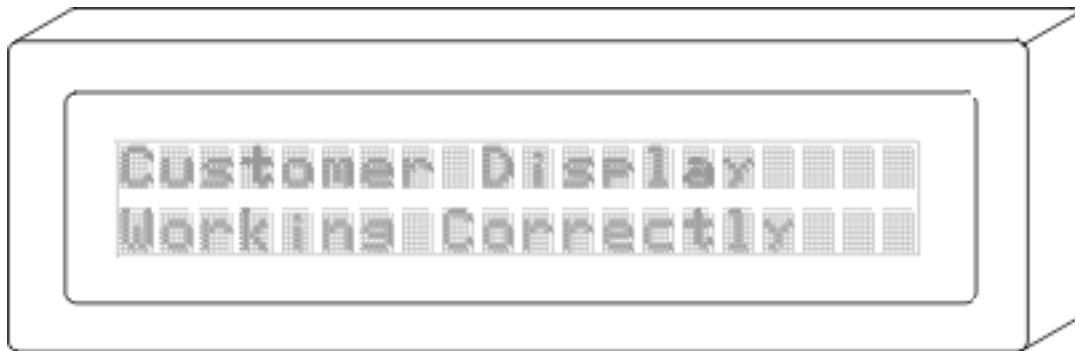

An Example of a Customer Display

If this picture fails to appear then there is probably something wrong with the display and should be investigated further by a qualified technician.

Keyboard Test

Due to the almost infinite variations of keyboard layout and key code assignment this facility can only perform the most basic of tests. The test only allows standard keys, i.e. 0-9 a-z and F1-F10 to be tested.
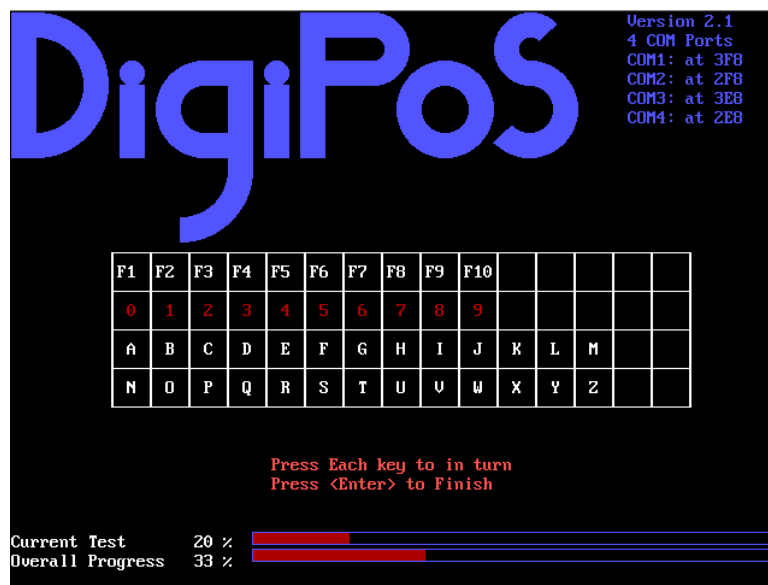
An Example of a Keyboard Test

On any given PoS keyboard these keys my or may not be present and even if they are present they may be labelled as stock items or type of transaction, for example the key producing the letter "a" may be labelled as "Cheque". The result of this is that pressing any key on the keyboard may well produce unexpected, but not necessarily incorrect results. Pressing any key 3 times terminates this test.

Magnetic Card Test

The diagnostic software is unable to detect the presence or absence of a magnetic card reader due to the fact that the majority of card readers only transmit data and do not receive data. Because of this the test menu will always show a magnetic card reader test even if there is no reader attached. To test a card reader, select the appropriate menu entry and pass a card through the reader. If the reader is working then the contents of the data tracks will be displayed on the screen along with a question asking if the displayed data is correct. The data displayed should be the same as that embossed or printed on the card. Please note that this test only works with keyboard wedge devices and not serial.

An Example of an MSR Test

The majority of cards will store more data than is visible on the card, this is normal and as long as the display includes the information on the card then it is relatively safe to assume that the card reader is ok. If the card fails to read then try another card or a card from a different supplier. If no data has been received after 10 seconds then the menu will revert to the main test menu. DO NOT swipe cards outside of the magnetic card test. Swiping cards outside of this area will produce unpredictable results.

Bar Code Scanner Test

The diagnostic software is unable to detect the presence or absence of a bar code scanner due to the fact that the majority of bar code scanners only transmit data and do not receive data. Because of this the test menu will always show a bar code scanner test even if there is no reader attached. To test a bar code scanner select the appropriate entry in the main test menu and within 10 seconds scan a bar code. Please note that this test only works with key board wedge scanners and will not work with serial scanners.

An Example of a Bar Code Test

Set-up Overview

The DigiPoS Retail System contains its own permanently programmed SETUP routing, which allows it to recognize and utilize the system's hardware. For example, one can set the system to identify hard disk and floppy disk drive capacity, the type of video being used, and the amount of memory installed. The BIOS (BASIC Input / Output System) will read this information each time the system boots up.

As setting up the BIOS can be complicated, PC-PoS advises that if any changes to the BIOS are to be made, only competent qualified computer technicians undertake them. The majority of the settings within the BIOS are operating system dependant and have been set up in accordance to your systems configuration. Altering these settings is not advised under any circumstances as any one setting incorrectly set can drastically alter the performance of your DigiPoS. Should the need arise to change any of these settings, please contact your nearest PC-PoS office.

WARRANTY POLICY

Limited Warranty

This product is warranted to be free of defects in materials and workings. This warranty period shall begin from the date of the accompanying invoice and will be in effect for a period of 3 Years.

Warranty Return Procedures

The customer must call the PC-PoS representative's technical support department or PC-PoS directly first so that any primary fault diagnosis can be carried out. If the fault remains, PC-PoS will issue a Return Authorization form, which must be filled out and returned with the following information:

1) *Contact Name and Physical Address.*
2) *Phone Number including any area or country codes.*
3) *Model Number.*
4) *Serial Number.*
5) *Invoice Number.*
6) *Date of Purchase.*
7) *Detailed description of the fault.*

Failure to provide complete and correct information will result in significant delays in processing your application for a returns authorization. Once your request has been processed, a Returns Authorization number will be issued and this must be attached to the goods being returned. Only at this stage can the goods now be returned. Any merchandise sent for repair without a valid Returns Authorization number correctly displayed on the packaging will not be accepted and might incur additional costs. All freight costs to return the DigiPoS back to PC-PoS are the responsibility of the customer except where special authorization for freight exemption has been granted by a PC-PoS management representative.

THE FOLLOWING SHALL VOID WARRANTY

Any unauthorized service, modification, tampering, any damages due to accident, misuse, abuse and or operation outside of electrical specifications shall void the warranty. This also includes modification of the specification of the DigiPoS as it was originally supplied including hard drive, memory, CPU, floppy disk drives, expansion cards and any other additional equipment not mentioned here specifically.

There will be charges for labour and/or materials for repairs carried out after the warranty period has expired. Please call your nearest PC-PoS office for a quotation on post warranty service.

PC-PoS Global Office Locations

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